

REMARKS/ARGUMENTS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments, and the following remarks. Claims 1-8 are in the application. Claims 3, 6 and 7 have been amended. The specification and sequence listing have been amended. No new matter has been added.

The Examiner requested that a typed version of Form 1449 from the Information Disclosure Statement be submitted. Applicants submit herewith a typed version of the form, containing a listing of the references already submitted.

The Examiner objected to the specification for lacking headings and a brief description of FIG. 1. Applicants have amended the specification to add headings and to include a description of FIG. 1.

The Examiner objected to the sequence listing, stating that the CRF copy submitted is flawed. Applicants submit herewith a corrected CRF copy of the sequence listing, and the required statement.

The Examiner objected to claim 3 for referring to a Table. Applicants have amended claim 3 in accordance with the Examiner's suggestions, to include a listing of the specific mutations from the table.

The Examiner rejected claims 6-8 under 35 U.S.C. §112, stating that the plasmid of claims 6-8 must be obtainable or available. Applicants submit that a deposit of the plasmid of claims 6-8 was not made because the plasmid is easily reproducible by one of skill in the art. The plasmid of claim 6 can be easily reproduced because the only difference to a known strain is the presence of a metA allele of claim 4. This metA allele is clearly defined in the specification and in claim 4. One of skill in the art can easily make this metA allele, as well as the plasmid containing this metA allele (claim 5), as well as the isolated microbial cell of claims 6 and 7 using standard procedures that have been well known for many years. The examples describe the procedures for the production of several different plasmids, as well as the production of microorganisms using these plasmids (Examples 2 and 3). Therefore, a deposit according to the Budapest treaty is unnecessary for the invention.

The Examiner also rejected claims 6-8 because it was unclear which strain was required. The Examiner suggested amending claims 6-8 to recite "An isolated microbial host cell." Applicants have amended the claims accordingly.

The Examiner has rejected claims 1-8 under 35 U.S.C. §112, first paragraph, as not being sufficiently described in the specification. The Examiner also rejected claims 1-8 under 35 U.S.C. §112, first paragraph, for not being enabled. Applicants respectfully traverse.

The enzyme of claim 1 is defined by the mutation of Asp and Tyr at conserved sites of the protein plus a functional definition (i.e. the reduced sensitivity towards L-methionine or SAM). Some mutants of the wild-type enzyme and the methods to determine the feedback resistance are provided in the description wherein the conserved sites are replaced by various amine acids. Therefore, the scope of claim 1 is appropriate because a person skilled in the art can recognize that the mutants claimed in claim 1 achieve the purpose of the present application.

Therefore, the sequences/proteins according to the present invention can be made by a person skilled in the art using the information of the present specification, and the examples of the present application prove the interrelation of the sequence and the desired features. Enclosed as Appendix A is an alignment of the SAM sequences of 14 different species. This alignment shows that in all these enzymes, Asp in position 101 and Tyr in Position 294 (both marked green) are conserved. In the light of this state of the art it is unnecessary to limit claim 1 to SEQ. ID. No.: 2, as claim 1 as written is in compliance with 35 USC §112.

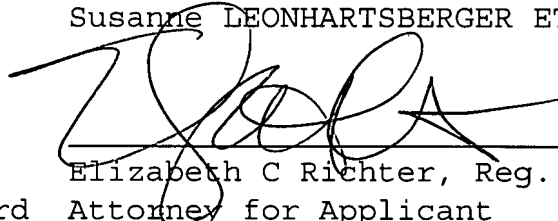
The Examiner rejected claims 4 and 5 under 35 U.S.C. §101 for non-statutory subject matter, and suggested that claims 4 and 5 be amended to claim "an isolated nucleic acid encoding homoserine transsuccinylase". Applicants have amended claims 4 and 5 accordingly. Applicants submit that claims 4 and 5 are now in compliance with 35 U.S.C. §101.

The Examiner has rejected claims 1-8 under the judicially-created doctrine of double patenting over claims 1-8 of copending Application Serial No. 10/530,844. Applicants submit herewith a

Terminal Disclaimer, disclaiming that portion of any patent issuing on the present application that would extend beyond the term of the patent issuing from application serial no. 10/530,844.

Accordingly, Applicants submit that the application is in condition for allowance. Early allowance of the claims is respectfully requested.

Respectfully submitted,
Susanne LEONHARTSBERGER ET AL.



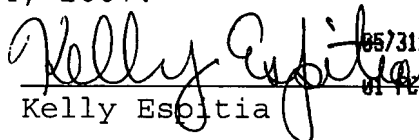
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Enclosure: Appendix A
Corrected Sequence Listing, Disk and Statement
Terminal Disclaimer and fee
Typed version of PTO Form 1449

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on May 24, 2007.



Kelly Espitia

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Appendix A

	1	50
Meta_B.halodurans	(1)	MPRIKIPDNLPAKEILTKEINIFVMAESRAYSDIRPLKIVILNLMRIKQTT
Meta_B.subtilis	(1)	MPINIPHTLPAKQVLESEHIFVMDESRAFHQDIRPQKIILNLMPPKQIT
Meta_Bruc.meritensis	(1)	MPRIKIPDDLPAATSVLEAEGVMVMREADAVRODIRPLRIGLLNLMPPKQVTT
Meta_C.acetobutylicum	(1)	MPRIKIPDNLPAKTLNEENIFFMDEDRAYHODIRPLNIVIVNLMPTKIVT
Meta_Camp.jejuni	(1)	MPLIIPENIPAYELLK-EHAFIMGLRRAKHQDIRPQEIILVNLMPKKIET
Meta_E.coli	(1)	MEIRVPDELPAVNFLREENVFVMTTSRASGOEIRPLKVLILNLMPPKQIET
Meta_L.lactis	(1)	MPVKVIEGLPAIDDLRADNIFVMNDERAKNQIRPLNLLVNLMPKRLIT
Meta_R.meliloti	(1)	MPRIKIPDTLPAPETLVHEGVRLMTETETIRODIRPLQIGLLNLMPPKQIKT
Meta_S.typhi	(1)	MEIRVLDDELPAVNFLREENVFVMTTSRASGOEIRPLKVLILNLMPPKQIET
Meta_S.typhimurium	(1)	MEIRVLDDELPAVNFLREENVFVMTTSRASGOEIRPLKVLILNLMPPKQIET
Meta_Str.pneumoniae	(1)	MEIRIDKKLPAVEILRTENIFVMDQRAAHQDIRPLKILILNLMPPKQVVT
Meta_T.maritima	(1)	MEINVPGLPAVKVLAKEGIFVMTTEKRAIHQDIRPLEILILNLMPPKQIKT
Meta_V.cholerae	(1)	MEIRIPDQLPASDVLRNENIFVMSERASTQOIRPLKVLILNLMPPKQIET
Meta_Y.pestis	(1)	MEIRVPDELPAVSFLRNENIFVMASSRAKTOEIRPLKVLILNLMPPKQIET
Consensus	(1)	MPIRIPD LPAV VLR ENIFVM ESRA QDIRPLKILILNLMPPKQI T
	51	100
Meta_B.halodurans	(51)	ETOLLRLLLGNTPLOVEVSFMYTDTHISKNTSYDHLQTFYQIDEVKKQKFF
Meta_B.subtilis	(51)	ETOLLRLLLGNTPLOVHTFLIPSTHTPKNTAREHLDEFYTFPSNHRKRF
Meta_Bruc.meritensis	(51)	ETQIARLLGATPLQVELTLVRMTNHVARHTPADHMLSFYCPWEEVNDQRF
Meta_C.acetobutylicum	(51)	ETQILRLLLGNTPLOVNPFTIHTQTHKSONTSKEHLIKFYETFEIKNKFF
Meta_Camp.jejuni	(50)	ENQILSLLANSPLQVNITLLATTSYVGKNTFFTHLEKFKGLEEVKKHFF
Meta_E.coli	(51)	ENQFLRLLSNSPLQVDIQLLRIDSRESRNTPAEHLNNTFCNFDDICQDNF
Meta_L.lactis	(51)	ERQILRLLSNSPLQINVEFLYMTSHDFKNTKQGHLDSEYKFSSEIKSQYV
Meta_R.meliloti	(51)	ETQMARLLGATPLQVELTLVRVNGHRPKNTPEEHLAFYETFEVEEARFF
Meta_S.typhi	(51)	ENQFLRLLSNSPLQVDIQLLRIDARESNTPAEHLNNTFCNFDDICQDNF
Meta_S.typhimurium	(51)	ENQFLRLLSNSPLQVDIQLLRIDARESNTPAEHLNNTFCNFDDICQDNF
Meta_Str.pneumoniae	(51)	ETOLLRLHLANTPLQDLIDFLVMESHRSKTRSEHMETFYKTFPEVKDEYF
Meta_T.maritima	(51)	EIQLLRLLGNTPLOVNVTLTYTETHKPKHTPIEHILKFTYTFSAVKDRKF
Meta_V.cholerae	(51)	ETQFLRLLSNSPLQVDIELLRIDRPSKNTPEEHLNTFYQFELVKNRNF
Meta_Y.pestis	(51)	ENQFLRLLSNSPLQVDIQLLRVDSRESKNTPEHLNNTFCNFDDICQDNF
Consensus	(51)	E QILRLLSNSPLQVDITLLRIDSH SKNTP EHL FY TFEEIKDKQF
	101	150
Meta_B.halodurans	(101)	ELIITGAPIETLPYDEVVDYWNELKQIMESKTNVTSTLHCWGAQAAGLF
Meta_B.subtilis	(101)	ELIITGAPIEHLAFEEVSYWEELKEIMESKTNVTSTLHCWGAQAAGLY
Meta_Bruc.meritensis	(101)	ELFVITGAPVERLPFEVETVYDEMRRVFDWTQSHVHRTLNICWAAQAAYV
Meta_C.acetobutylicum	(101)	ELIIVTGAPVETLSFENVVDYWEELCRIFDWSVTNVTSTLHCWGAQAAGLY
Meta_Camp.jejuni	(100)	ELAIIVTGAPVEQMDFEKVAYWEELLEIFDFLKQNVTSSTMYICWGAMAALY
Meta_E.coli	(101)	ELIIVTGAPLGLVEFNDVAYWPQIQVLEWSDHVTSTLFCWAVQAALN
Meta_L.lactis	(101)	ELIIVTGAPVEQLNFEEDVDYWEELKIIDWSKSHVYSSSLHCWGAQAALY
Meta_R.meliloti	(101)	ELIITGAPIETLEYEEVTYWELQRIQIFDWTNNVHSTLNCWCGMAAAYV
Meta_S.typhi	(101)	ELIIVTGAPLGLVEFNDVAYWPQIQVLEWAKDHVTSTLFCWAVQAALN
Meta_S.typhimurium	(101)	ELIIVTGAPLGLVEFNDVAYWPQIQVLEWAKDHVTSTLFCWAVQAALN
Meta_Str.pneumoniae	(101)	ELIITGAPVEHLPFEEVDYWEELFROMLEWSKTHVYSTLHCWGAQAAGLY
Meta_T.maritima	(101)	ELIITGAPVELLPFEEDVDYWEELTEIMESKTHVYSTLHCWGAQAAGLY
Meta_V.cholerae	(101)	ELIITGAPLGLVQFEDVAYWQHLQNIWAKAHVTSTLYICWAAQAAGLK
Meta_Y.pestis	(101)	ELIIVTGAPLGLVDFCDVAYWPQIERITIAWAKEHVTSTLFCWAVQAALN
Consensus	(101)	ELIITGAPVE L FEEVAYW ELR ILEWSKTHVTSTLHCWAAQAALY
	151	200
Meta_B.halodurans	(151)	YHYGVKVPPLPEKQFQVYPHKINVPNVKLLRGFDDEFYVPHSRHTDINKA
Meta_B.subtilis	(151)	YHYGVKIPMPKQIFGVFEHTVLKSKHERLVRFDELHYVPHSRHTDINME
Meta_Bruc.meritensis	(151)	YHFGMKKYDLPAKASGVFRORSVLASPYLRGFSDDFAIPVSRWTEVRKS
Meta_C.acetobutylicum	(151)	YHYGIPKYELHEKLPFVFKHNLTERNIKLTRGFDEFYAPHSRHTYVKRE
Meta_Camp.jejuni	(150)	YFYGVDKISLDKIFGVYKHKVSPDLLLTN-LDEKVLMPHSRHSMDDEE
Meta_E.coli	(151)	ILYGIPIKQTRTEKLSGVYEHHLHPHALLTRGFDDSFAPHSRYADFPAA
Meta_L.lactis	(151)	ARYGVTKENLPQKLCGIYKSSVEQPKNPLFRGFDDFFNYPQSRYSQSNPS
Meta_R.meliloti	(151)	YHFGVPKYPLKEKAFGVYRHQNLQPSVYLNLFSDFAVPSRWTEVRRRA
Meta_S.typhi	(151)	ILYGIPIKQTRTDKLSGVYEHHLHPHALLTRGFDDSFAPHSRYADFPAA
Meta_S.typhimurium	(151)	ILYGIPIKQTRTDKLSGVYEHHLHPHALLTRGFDDSFAPHSRYADFPAA
Meta_Str.pneumoniae	(151)	LYRGVEKYQMDSKLSGIYPQDTLKEGHLFRGFDDSYVSPHSRHTEISKE
Meta_T.maritima	(151)	YFYGIPKYELPQKLSGVYKHR-VAKDSVLFRGHDDFFWAPHSRYTEVKKE
Meta_V.cholerae	(151)	LLYNLPKRTREEKLSGVYHDIHKPFHPLLRGFDDRFAPHSRYADFDAE
Meta_Y.pestis	(151)	ILYGIPIKMTREVKLSGIYQHOTLEPLALLTRGFDETFAPHSRYADFPVE
Consensus	(151)	Y YGIPK L EKLGVY H IL P ALL RGFD FFLAPHSRYTDV B
	201	250
Meta_B.halodurans	(201)	QIEAHPDLEILSESEQ-AGVYIVASKDGKQIFVTGHSEYDACTLOQEYER
Meta_B.subtilis	(201)	QLQAVPELNILTASKEAGGLLLIVSKDEKQVFLTGHPYDNTNLLQEYER
Meta_Bruc.meritensis	(201)	DIPADSLKVLVDSTE-TGLCLLDDPRHRSLSHMFNHYEDTTSIADEYFR
Meta_C.acetobutylicum	(201)	DIKKNPSLKILAESDE-AGAYIVASENGKNIFVMGHAEDGDTLNLEYIR
Meta_Camp.jejuni	(199)	QILALQKQKLLKILLRNKIGSALLRDEKNIFILGHLEYFKETLHQEYVR
Meta_E.coli	(201)	LIRDYTDLEILAETEE-GDAYLFASKDKRIAFVTGHPEYDAOTLAQEFFR
Meta_L.lactis	(201)	EIKKVPDLEVLSSSKE-TGFSILAKKNLREIYLFGLHLEYDGTILAEYER
Meta_R.meliloti	(201)	DIDRVDPDLEILMESKE-VGVCLVHEKKNRLYMFNHYEDDSTSLSEYFR
Meta_S.typhi	(201)	LIRDYTDLEILAETEE-GDAYLFASKDKRIAFVTGHPEYDAHTLAGEYFR
Meta_S.typhimurium	(201)	LIRDYTDLEILAETEE-GDAYLFASKDKRIAFVTGHPEYDAHTLAGEYFR

Meta_Str.pneumoniae	(201)	EVLNKTNLEILSEGPQ-VGVASILASRDLREIYSFGHLEYDRDTLAKEYFR
Meta_T.maritima	(200)	DIDKVPELEILAESDE-AGVYVANKSERQIFVTGHPEYDRYTLRDEYYR
Meta_V.cholerae	(201)	FLAEHTDLDILATSDV-AGVYLAATKDKRNVFVTGHPEYDAYTLHGEYVR
Meta_Y.pestis	(201)	VLQQYTDLDILVSSEE-AGAYLFASKDKRVAFVTGHPEYDVDTLAGEYQR
Consensus	(201)	I TDLEILAEESEE AGVYLVASKD R IFVTGHPEYD TLA EYFR
	251	300
Meta_B.halodurans	(250)	DRAR-GLNIQVPENYFPNDDATRKPLLWRRAHSYLLFSNWLNYVETP
Meta_B.subtilis	(251)	DLERNLSTVEAPKHYFAKGSNE--PVNRWKAHATLLFMNWLNYVETP
Meta_Bruc.meritensis	(250)	DIQV-QPEAKVPVNYFPGDDAKRPPENRWRSHAHLLFGNWIN-ETP
Meta_C.acetobutylicum	(250)	DKNQ-GMNIKIPKNYFKDNDPEKGPMTWRGHANLLFSNWLNYVETP
Meta_Camp.jejuni	(249)	--D--N-FIQKAKNYDCKGN---IKYNWRSNANTIFANWLNYVETP
Meta_E.coli	(250)	DVEA-GLDPDVPYNYFPHNDPQNTPRASWRSHGNLLFTNWLNYVETP
Meta_L.lactis	(250)	DKEE-GLKPNLPQNYFPENDDKNPKSTWASAASLFFSNWLNYVETP
Meta_R.meliloti	(250)	DVDA-GVPIKLPDYFPHNDSALPPQNRWRSHAHLLFGNWIN-ETP
Meta_S.typhi	(250)	DVEA-GLNPEIPYNYFPKNDPQSIPTTWRSHGNLLFTNWLNYVETP
Meta_S.typhimurium	(250)	DVEA-GLNPEVPYNYFPKNDPQNIPTATWRSHGNLLFTNWLNYVETP
Meta_Str.pneumoniae	(250)	DRDA-GFDPHIPENYFKDDDVNQVPCLCWSSSAALFFSNWVDHAWETP
Meta_T.maritima	(249)	DIGR-NLKVPPIPANYFPNDDPTKTPILTWWSHAHLLFFSNWLNYVETP
Meta_V.cholerae	(250)	DLGE-GLNPAIPVNYYPNDNPDNKPACASWRSHGHLLFANWLNYVETP
Meta_Y.pestis	(250)	DLAA-GLNPQVPLNYFPSDASLRPKASWRSHGHLLFANWLNYVETP
Consensus	(251)	DVE GL P IP NYFP D P TWRSHA LLFSNWLNYVETP
	301	323
Meta_B.halodurans	(299)	YDLSR-----
Meta_B.subtilis	(299)	YEW-----
Meta_Bruc.meritensis	(298)	YDIERIGKV-----
Meta_C.acetobutylicum	(299)	FEL-----
Meta_Camp.jejuni	(291)	FVL-----
Meta_E.coli	(299)	YDLRHMNPTLD-----
Meta_L.lactis	(299)	YLGRLSQHLNEENYDFNQKEQK
Meta_R.meliloti	(298)	YELAKIGTGER-----
Meta_S.typhi	(299)	YDLRHMNPTLD-----
Meta_S.typhimurium	(299)	YDLRHMNPTLD-----
Meta_Str.pneumoniae	(299)	FDWRKIEDDASAYGYL-----
Meta_T.maritima	(298)	YRLEDIH-----
Meta_V.cholerae	(299)	YDLEKFSEANFTKDE-----
Meta_Y.pestis	(299)	FDLRHMNPTLD-----
Consensus	(301)	YDL I